

Notice No.1

Rules and Regulations for the Classification of Special Service Craft July 2016

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that paragraphs, Tables and Figures are not shown in their entirety. This Corrigenda Notice shows amendments only.

Issue date: November 2016

Amendments to	Effective date
Part 3, Chapter 3, Sections 2 & 3	Corrigenda
Part 3, Chapter 4, Section 7	Corrigenda
Part 5, Chapter 3, Section 3	Corrigenda
Part 5, Chapter 4, Section 3	Corrigenda
Part 6, Chapter 3, Section 1	Corrigenda
Part 6, Chapter 6, Section 2	Corrigenda
Part 7, Chapter 3, Section 1	Corrigenda
Part 10, Chapter 1, Sections 2, 7 & 11	Corrigenda
Part 15, Chapter 1, Sections 8 & 15	Corrigenda
Part 15, Chapter 2, Sections 8, 14 & 15	Corrigenda
Part 15, Chapter 3, Sections 8, 9, 10, 11 & 12	Corrigenda



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Part 3, Chapter 3 Control Systems

■ Section 2 Rudders

2.11 Rudder stock (tubular)

Table 3.2.6 Rudder stock diameter

Requirement	
1. Basic stock diameter, d_s , at and below lowest bearing:	$d_s = f_c f_p f_v^3 \sqrt{\left(\frac{235}{\sigma_0}\right)^2 f_R (V+3)^2 \sqrt{A_R^2 x_P^2 + N^2}} \text{ mm}$ $d_s = f_c f_p f_v^3 \sqrt{\left(\frac{235}{\sigma_0}\right)^m f_R (V+3)^2 \sqrt{A_R^2 x_P^2 + N^2}} \text{ mm}$

■ Section 3 Sternframes and appendages

3.2 Sternframes

Table 3.3.1 Sternframes

Symbols	
L_R , T as defined in Pt 3, Ch 1, 6.2 <i>Principal particulars</i>	
$w = \frac{400 A_R C (V+3)^2 (3x+a)}{b(L_1 + 640)}$	$w = \frac{400 A_R C (V+3)^2 (3x+a)}{b(L_1 + 640)}$

Part 3, Chapter 4 Closing Arrangements and Outfit

■ Section 7 Portlights, windows and viewing ports, skylights and glass walls

7.9 Laminated glass thickness

7.9.1 Laminated toughened safety glass may be used having a thickness greater than the single plate toughened safety glass for the same size window, as given by:

$$t_s^2 = t_1^2 + t_2^2 + \dots + t_n^2 \text{ mm}$$

Part 5, Chapter 3

Local Design Criteria for Craft Operating in Non-Displacement Mode

■ Section 3

Hull envelope design criteria

3.1 Hull structures

Table 3.3.1 Design pressures for non-displacement craft

Category/location	Craft type	Symbol	Plating pressure	Min.	Symbol	Stiffener pressure	Min.
Components							
Deckhouses, bulwarks and superstructure		P_{DHP}	$H_t S_t G_t C_t P_{dhp}$		P_{DHF}	$\bar{\sigma}_t H_t S_t G_t C_t P_{dhp} + P_{tr}$	

Part 5, Chapter 4

Local Design Criteria for Craft Operating in Displacement Mode

■ Section 3

Hull envelope design criteria

3.1 Hull structures

Table 4.3.1 Design pressures for displacement craft

Category/location	Craft type	Symbol	Plating pressure	Min.	Symbol	Stiffener pressure	Min.
Components							
Inner bottom		P_{IBP}	$H_t S_t P_m + P_h$	10T	P_{IBF}	$\bar{\sigma}_t H_t S_t P_s$ $\bar{\sigma}_t (H_t S_t P_s + P_h)$	10T

Part 6, Chapter 3

Scantling Determination for Mono-Hull Craft

■ Section 1

General

1.17 Stiffening general

1.17.1 The requirements for section modulus, inertia and web area of stiffening members are, in general, to be in accordance with the following:

(c) Web area:

~~$$A_w = F_A \frac{psl_e k_s}{100 f_\tau \left(\frac{235}{\sqrt{3}} \right)} \text{ cm}^2$$~~

$$A_w = \Phi_A \frac{psl_e k_s}{100 f_\tau \left(\frac{235}{\sqrt{3}} \right)} \text{ cm}^2$$

1.24 Web stability

1.24.1 ~~Primary members of asymmetrical section are to be supported by tripping brackets at alternate secondary members. If the section is symmetrical, the tripping brackets may be four spaces apart.~~ Primary members are to be supported by tripping brackets. The tripping brackets supporting asymmetrical sections are to be spaced no more than two secondary frames apart. The tripping brackets supporting symmetrical sections are to be spaced no more than four secondary frames apart.

Part 6, Chapter 6 Hull Girder Strength

■ Section 2 Hull girder strength for mono-hull craft

2.6 Superstructures global strength

2.6.3 For superstructures with one or two tiers extending outboard to the craft's side shell, the effectiveness in absorbing hull girder bending loads in the uppermost effective tier may be assessed by the following factor:

$$\eta_s = \frac{7[(\epsilon - 5)\gamma]^4 + 94(5 - \epsilon)\gamma^3 + 2800(\epsilon - 5,8)\gamma^2 + 27660(9 - \epsilon)\gamma f(\lambda, N)}{7[(\epsilon - 5)\gamma]^4 + 94(5 - \epsilon)\gamma^3 + 2800(\epsilon - 5,8)\gamma^2 + 27660(9 - \epsilon)\gamma f(\lambda, N)} \times 10^{-7}$$

Part 7, Chapter 3 Scantling Determination for Mono-Hull Craft

■ Section 1 General

1.24 Web stability

1.24.1 Primary members of asymmetrical section are to be supported by tripping brackets at alternate secondary members. If the section is symmetrical, the tripping brackets may be four spaces apart. Primary members are to be supported by tripping brackets. The tripping brackets supporting asymmetrical sections are to be spaced no more than two secondary frames apart. The tripping brackets supporting symmetrical sections are to be spaced no more than four secondary frames apart.

Part 10, Chapter 1 Reciprocating Internal Combustion Engines

■ Section 2 Materials and Components components

2.5 Autofrettage

2.5.1 Manufacturers, and external providers of products or services who carry out autofrettage of engine components are to be apply an approach for product assurance that is approved by LR.

■ Section 7 Control and monitoring of main, auxiliary and emergency engines

7.6 Engines for propulsion purposes

Table 1.7.1 Engines for propulsion purposes: alarms and safeguards slow-downs

Item	Alarm	Note
Cylinder lubricator flow	Low	One sensor per lubricator unit on crosshead engines. Slow-down.
Cylinder coolant inlet pressure or flow*++	Low	Slow-down (automatic on trunk piston engines)

■ Section 11

Factory Acceptance Test and Shipboard Trials of Engines

11.4 Shipboard trials

Table 1.11.2 Scope of on board trials for diesel engines

Main engines driving fixed-pitch propellers or waterjet (see Note 1)		
Trial condition	Duration	Note
At rated engine speed, R	≥ 4 hours	-
At engine speed corresponding to $1,032 \cdot R$	30 minutes	Where the engine adjustment permits, see Pt 10, Ch 1, 11.2 General 11.2.7
Note 2. Controllable pitch propellers are to be tested with various propeller pitches. The 100 per cent power test is to be conducted at rated engine speed R with a propeller pitch set at MCR (or to the maximum achievable power if 100 per cent cannot be reached).		

Part 15, Chapter 1

Piping Design Requirements

■ Section 8

Plastic pipes

8.1 General

8.1.1 The use of plastic pipes will be considered in relation to the properties of the materials, their location, the operating conditions and the intended service. Details are to be submitted for approval. Special consideration will be given to any proposed service for ~~plastics~~ plastic pipes not mentioned in these Rules.

8.1.6 The use of ~~plastics~~ plastic pipes may be restricted by statutory requirements of the National Authority of the country in which the craft is to be registered.

8.3 Design strength

8.3.6 Where it is proposed to use ~~plastics~~ plastic piping in low temperature services, design strength testing is to be made at a temperature 10°C lower than the minimum working temperature.

8.4 Fire performance criteria

8.4.1 Where ~~plastics~~ plastic pipes are used in systems essential for the safe operation of the craft, or for containing combustible fluids or sea-water where leakage or failure could result in fire or in the flooding of watertight compartments, the pipes and fittings are to be of a type which have been fire endurance tested in accordance with the requirements of Table 1.8.3 Fire endurance requirements, see also Pt 15, Ch 1, 8.2 Design and performance criteria 8.2.3.

8.6 Manufacture and quality control

8.6.1 All materials for plastic pipes and fittings are to be approved by LR, and are in general to be tested in accordance with Ch 14, 4 ~~Plastics~~ Plastic pipes and fittings of the Rules for Materials. For pipes and fittings not employing hand lay-up techniques, the hydrostatic pressure test required by Ch 14, 4.9 Hydraulic test of the Rules for Materials may be replaced by testing carried out in accordance with the requirements stipulated in a National or International Standard, consistent with the intended use for which the pipe or fittings are manufactured, provided there is an effective quality system in place complying with the requirements of Ch 14, 4.4 Quality assurance of the Rules for Materials and the testing is completed to the satisfaction of the LR Surveyor.

8.6.4 Plastic pipes are to be manufactured and tested in accordance with Ch 14, 4 ~~Plastics~~ Plastic pipes and fittings of the Rules for Materials. For Class III piping systems the pipe manufacturer's test certificate may be accepted in lieu of an LR Certificate and is to be provided for each consignment of pipe.

8.7 Installation and construction

8.7.7 The required fire endurance level of the pipe is to be maintained in way of pipe supports, joints and fittings, including those between ~~plastics~~ plastic and metallic pipes.

■ Section 15

Requirements for small craft which are not required to comply with the HSC Code

15.1 General

15.1.1 The requirements of *Pt 15, Ch 1, 1 Application* to *Pt 15, Ch 1, 13 Requirements for flexible hoses* apply, except where modified by this Section.

15.5 Plastic pipes

15.5.2 The requirements of *Pt 15, Ch 1, 8.1 General* 8.1.4 do not apply but where ~~plastics~~ plastic pipes are used for bilge and cooling water services they are to be of a type which has been approved by LR. However, fire endurance testing is not required, see *Pt 15, Ch 1, 15.5 Plastic pipes* 15.5.1.

15.5.3 Where ~~plastics~~ plastic pipes are used in bilge systems in machinery spaces, a single failure in any section of the pipe is not to render the whole system inoperable.

Part 15, Chapter 2

Hull Piping Systems

■ Section 8

Pumps on bilge service

8.3 Capacity of pumps

8.3.2 To achieve the flow velocity required by *Pt 15, Ch 2, 8.3 Capacity of pumps* 8.3.1, the capacity *Q* of each bilge pumping unit or bilge pump is to be not less than that required by the following formula:

$$Q = \frac{5,75}{10^3} d_m^2 \text{ m}^3/\text{hour} \quad Q = \frac{5,75}{10^3} d_m^2 \text{ m}^3/\text{hour}$$

■ Section 14

Requirements for small craft which are not required to comply with the HSC Code

14.1 General

14.1.1 These requirements replace *Pt 15, Ch 2, 1 General* to *Pt 15, Ch 2, 10 Submersible bilge pump arrangements*, *Pt 15, Ch 2, 12 Additional requirements relating to fixed pressure water spray fire-extinguishing systems* and *Pt 15, Ch 2, 13 Additional requirements for Passenger (B) Craft* of this Chapter. In general the requirements of *Pt 15, Ch 2, 11 Air, overflow and sounding pipes* are to be complied with, however *Pt 15, Ch 2, 11.4 Air pipe closing appliances* 11.4.1 and *Pt 15, Ch 2, 11.9 Sounding arrangements* 11.9.3 do not apply.

■ Section 15

Requirements for yachts and service craft of 24 m or greater in length, which are not required to comply with the HSC Code

15.1 General

15.1.1 The requirements of *Pt 15, Ch 2, 1 General*, *Pt 15, Ch 2, 2 Construction and installation*, *Pt 15, Ch 2, 3 Shell valves and fittings (other than those on scuppers and sanitary discharges)*, *Pt 15, Ch 2, 11 Air, overflow and sounding pipes* and *Pt 15, Ch 2, 12 Additional requirements relating to fixed pressure water spray fire-extinguishing systems* of this Chapter are generally applicable. The remaining *Pt 15, Ch 2, 4 Bilge pumping and drainage systems* of this Chapter concerning the requirements for bilge pumping and drainage systems are replaced by the requirements given in *Pt 15, Ch 2, 15.2 Drainage of spaces containing low flashpoint fuel* to *Pt 15, Ch 2, 15.30 Bilge level detection*.

Part 15, Chapter 3 Machinery Piping Systems

■ Section 8 Low pressure compressed air systems

8.1 General

8.1.2 Compressed air systems used for diesel engine starting are to comply with the requirements of *Pt 10, Ch 1, 9 Starting arrangements* *Pt 10, Ch 1, 8.4 Starting air pipe systems and safety fittings* and *Pt 10, Ch 1, 9 Starting arrangements*.

■ Section 9 Miscellaneous Machinery

9.1 General

Table 3.9.1 Miscellaneous machinery: Alarms and safeguards

Item	Alarm	Note
Exhaust gas temperature after water injection	High	See <i>Part 10, Ch 1, 8.6.6</i> <i>Part 10, Ch 1, 8.2 Exhaust systems 8.2.7</i>

■ Section 10 Special requirements for multi-hull craft

10.1 General

10.1.1 The requirements of *Pt 15, Ch 3, 1 Application* to *Pt 15, Ch 3, 8 Low pressure compressed air systems* are generally applicable to multi-hull craft except where these are modified by the requirements of this Section.

■ Section 11 Requirements for Passenger (A) Craft

11.1 General

11.1.1 The requirements of *Pt 15, Ch 3, 1 Application* to *Pt 15, Ch 3, 10 Special requirements for multi-hull craft* apply except that the standby machinery arrangements detailed in Sections *Pt 15, Ch 3, 6 Lubricating/hydraulic oil systems* and *Pt 15, Ch 3, 7 Engine cooling water systems* are not required.

■ Section 12 Requirements for small craft which are not required to comply with the HSC Code

12.1 General

12.1.1 The requirements of this Section replace Sections *Pt 15, Ch 3, 3.2 Fuel oil storage arrangements* to *Pt 15, Ch 3, 3.4 Unattended machinery* and *Pt 15, Ch 3, 4 Fuel oil systems*, *Pt 15, Ch 3, 5 Low flash point fuels*, *Pt 15, Ch 3, 6 Lubricating/hydraulic oil systems* and *Pt 15, Ch 3, 7 Engine cooling water systems* of this Chapter, see also *Pt 15, Ch 1, 15 Requirements for small craft which are not required to comply with the HSC Code*.

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